

## CLAIMS

1. An aluminum alloy hollow material characterized  
in that the material is manufactured by subjecting an  
5 aluminum alloy ingot containing at least 0.3-1.5 wt% Mn to  
port hole extrusion or to port hole extrusion followed by  
drawing-elongation processing, wherein a difference in  
electric conductivity of individual portions in lengthwise  
direction of the hollow material is not more than 1.0  
10 IACS%.

2. A process for producing an aluminum alloy hollow  
material as set forth in claim 1, wherein an aluminum  
alloy ingot containing at least 0.3-1.5 wt% Mn is  
15 subjected to a homogenizing treatment and thereafter the  
ingot is subjected to port hole extrusion or port hole  
extrusion followed by drawing-elongation processing to  
produce a hollow material, in which the aforesaid  
homogenizing treatment is carried out by maintaining the  
20 ingot at a given temperature of 500-630 °C for 0-24 hours,  
thereafter cooling the ingot down to 400-500 °C at a  
cooling velocity of not more than 100 °C/hr, and  
maintaining the ingot at this temperature for 4-48 hours.

25 3. A process for producing an aluminum alloy hollow

material as set forth in claim 1, wherein an aluminum alloy ingot containing at least 0.3-1.5 wt% Mn is subjected to a homogenizing treatment and thereafter the ingot is subjected to port hole extrusion or port hole extrusion followed by drawing-elongation processing to produce a hollow material, in which the aforesaid homogenizing treatment of the ingot is carried out by maintaining the ingot at a given temperature ( $T_1$ ) of 500-630 °C for 0-16 hrs, thereafter cooling the ingot from the temperature  $T_1$  to 350 °C ( $T_2$ ) at a cooling velocity of not more than 100°C/hr, whereby the time from after achieving to the temperature  $T_1$  to becoming the temperature  $T_2$  is maintained within 10-48 hrs, and cooling the ingot at an optional cooling velocity from the temperature  $T_2$  to room temperature.

4. A process for producing an aluminum alloy hollow material as set forth in claim 1, wherein an aluminum alloy ingot containing at least 0.3-1.5 wt% Mn is subjected to a homogenizing treatment and thereafter the ingot is subjected to port hole extrusion or port hole extrusion followed by drawing-elongation processing to produce a hollow material, in which the aforesaid homogenizing treatment is carried out by maintaining the ingot at a given temperature of 400-500 °C for 12-48 hours,

and thereafter cooling the ingot down to room temperature.

5. A process for producing an aluminum alloy hollow material as set forth in claim 1, wherein an aluminum alloy ingot containing at least 0.3-1.5 wt% Mn is subjected to a homogenizing treatment and thereafter the ingot is subjected to port hole extrusion or port hole extrusion followed by drawing-elongation processing to produce a hollow material, in which the aforesaid homogenizing treatment of the ingot is carried out by maintaining the ingot at a given temperature of 400-500 °C for 0.5-4 hours, thereafter elevating the temperature up to an another given temperature of 550-630 °C, maintaining the temperature for 0.5-4 hrs., thereafter cooling the ingot to 350 °C at a cooling velocity of not more than 100 °C/hr, and cooling the ingot from 350 °C to room temperature at an optional cooling rate.

6. An aluminum alloy extruded pipe material for air conditioner piping characterized in that an aluminum alloy ingot consisting of 0.8-1.5 wt% Mn, 0.1-0.7 wt% Fe, 0.03-0.6 wt% Si, and 1 or at least 2 of 0.00-0.45 wt% Cu, 0.0-0.3 wt% Mg, 0.0-0.3 wt% Cr, 0.0-0.1 wt% Ti, 0.0-0.5 wt% Zn, 0.0-0.3 wt% Zr, and 0.0-0.3 wt% Ni, the balance being aluminum, and any unavoidable impurities is

subjected to port hole type continuous hot extrusion,  
wherein an electric conductivity of the aforesaid pipe  
material is at least 39.0 IACS% and a difference in  
electric conductivity of individual portions in lengthwise  
5 direction of the extruded pipe material is not more than  
1.0 IACS%.

7. A process for producing an aluminum alloy  
extruded pipe material for air conditioner piping wherein  
10 an aluminum alloy ingot consisting of 0.8-1.5 wt% Mn,  
0.1-0.7 wt% Fe, 0.03-0.6 wt% Si, and 1 or at least 2 of  
0.00-0.45 wt% Cu, 0.0-0.3 wt% Mg, 0.0-0.3 wt% Cr, 0.0-0.1  
wt% Ti, 0.0-0.5 wt% Zn, 0.0-0.3 wt% Zr, and 0.0-0.3 wt% Ni,  
the balance being aluminum, and any unavoidable impurities  
15 is subjected to a homogenizing treatment and thereafter  
the ingot is subjected to port hole type continuous hot  
extrusion method to extrude a pipe material, in which the  
aforesaid homogenizing treatment of the ingot is carried  
out by maintaining the ingot at a given temperature of  
20 500-630 °C for 0-24 hrs, thereafter cooling the ingot down  
to an another given temperature of 400-500 °C at a cooling  
velocity of not more than 100 °C/hr, and maintaining the  
ingot at this temperature for 4-48 hrs.

25 8. A process for producing an aluminum alloy

extruded pipe material for air conditioner piping wherein  
an aluminum alloy ingot consisting of 0.8-1.5 wt% Mn,  
0.1-0.7 wt% Fe, 0.03-0.6 wt% Si, and 1 or at least 2 of  
0.00-0.45 wt% Cu, 0.0-0.3 wt% Mg, 0.0-0.3 wt% Cr, 0.0-0.1  
5 wt% Ti, 0.0-0.5 wt% Zn, 0.0-0.3 wt% Zr, and 0.0-0.3 wt% Ni,  
the balance being aluminum, and any unavoidable impurities  
is subjected to a homogenizing treatment and the ingot is  
subjected to port hole type continuous hot extrusion  
method to extrude a pipe material, in which the aforesaid  
10 homogenizing treatment of the ingot is carried out by  
maintaining the ingot at a given temperature ( $T_1$ ) of  
500-630 °C for 0-48 hrs, thereafter cooling the ingot from  
the temperature  $T_1$  to 350 °C ( $T_2$ ) at a cooling velocity of  
not more than 100 °C/hr, whereby the time from after  
15 achieving the temperature  $T_1$  to becoming the temperature  $T_2$   
is maintained within 12-48 hours, and cooling the ingot at  
an optional cooling velocity from the temperature  $T_2$  to  
room temperature.

20 9. A process for producing an aluminum alloy  
extruded pipe material for air conditioner piping wherein  
an aluminum alloy ingot consisting of 0.8-1.5 wt% Mn,  
0.1-0.7 wt% Fe, 0.03-0.6 wt% Si, and 1 or at least 2 of  
0.00-0.45 wt% Cu, 0.0-0.3 wt% Mg, 0.0-0.3 wt% Cr, 0.0-0.1  
25 wt% Ti, 0.0-0.5 wt% Zn, 0.0-0.3 wt% Zr, and 0.0-0.3 wt% Ni,

the balance being aluminum, and any unavoidable impurities is subjected to a homogenizing treatment and the ingot is subjected to port hole type continuous hot extrusion method to extrude a pipe material, in which the aforesaid  
5 homogenizing treatment of the ingot is carried out by maintaining the ingot at a given temperature of 400-500 °C for 12-48 hrs, and thereafter cooling the ingot down to room temperature.

10 10. A process for producing an aluminum alloy extruded pipe material for air conditioner piping wherein an aluminum alloy ingot consisting of 0.8-1.5 wt% Mn, 0.1-0.7 wt% Fe, 0.03-0.6 wt% Si, and 1 or at least 2 of  
15 0.00-0.45 wt% Cu, 0.0-0.3 wt% Mg, 0.0-0.3 wt% Cr, 0.0-0.1 wt% Ti, 0.0-0.5 wt% Zn, 0.0-0.3 wt% Zr, and 0.0-0.3 wt% Ni, the balance being aluminum, and any unavoidable impurities is subjected to a homogenizing treatment and the ingot is subjected to port hole type continuous hot extrusion  
20 method to extrude a pipe material, in which the aforesaid homogenizing treatment of the ingot is carried out by maintaining the ingot at a given temperature of 400-500 °C for 0.5-4 hours, thereafter elevating the temperature up to an another given temperature of 550-630 °C, maintaining the temperature for 0.5-4 hrs., thereafter cooling the  
25 ingot to 350 °C at a cooling velocity of not more than 100

°C/hr, and cooling the ingot from 350 °C to room temperature at an optional cooling velocity.

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